

Amendments to the Claims:

This listing of claims will replace all prior listings thereof.

1. (Currently Amended) A method for assembling a modulatable fusion molecule, comprising:

inserting randomly an insertion sequence into an acceptor sequence, wherein the insertion sequence and the acceptor sequence each comprise a state, thereby generating a fusion molecule; and

selecting a fusion molecule wherein insertion couples the state of the insertion sequence to the state of the acceptor sequence, and wherein the fusion molecule comprises a new state.

2. (Original) The method according to claim 1, wherein the state of the insertion sequence is modulated.

3. (Original) The method according to claim 2, wherein the state of the insertion sequence is modulated in response to a change in the state of the acceptor sequence.

4. (Original) The method according to claim 1, wherein the state of the acceptor sequence is modulated.

5. (Original) The method according to claim 4, wherein the state of the acceptor sequence is modulated in response to a change in the state of the insertion sequence.

6. (Cancelled)

7. (Currently Amended) A method for assembling a fusion molecule comprising an insertion site, the method comprising:

inserting randomly an insertion sequence into an acceptor sequence, thereby generating a fusion molecule, wherein the insertion sequence and the acceptor sequence each comprise a state;

generating a duplication, deletion, or substitution, at the insertion site in the acceptor sequence; and;

selecting a fusion molecule wherein insertion couples the state of the insertion sequence to the state of the acceptor sequence, and wherein the fusion molecule comprises a new state.

8. (Original) The method according to claim 7, wherein the generating step occurs prior to the inserting step.

9-13. (Canceled)

14. (Previously Presented) The method of claim 1 wherein the fusion molecule can switch between at least an active state and a less active state.

15 - 44. (Canceled)

45. (Previously Presented) The method of claim 1, wherein the inserting randomly comprises one or more of a method selected from: nuclease treatment, mechanical shearing, chemical treatment or radiation treatment.

46. (Previously Presented) The method of claim 1, 7, 14, or 45, wherein the method further comprises generating a duplication, deletion, substitution at the insertion site in the acceptor sequence.

47. (Previously Presented) The method of claim 45, wherein nuclease treatment comprises digestion with a 3' to 5' exonuclease.